

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-35 are pending in the application. Claims 18 and 22 are amended by the present amendment to correct minor informalities. No new matter is presented.

In the outstanding Office Action, Claims 1-2, 4-5, 7-20 and 23 were rejected under 35 U.S.C. §102(e) as anticipated over Harakawa et al. (U.S. Patent No. 6,385,331, hereinafter Harakawa); Claims 3 and 24-35 were rejected under 35 U.S.C. §103(a) as unpatentable over Harakawa in view of Rubbert et al. (U.S. Patent No. 7,029,275, hereinafter Rubbert); Claim 6 was rejected under 35 U.S.C. §103(a) as unpatentable over Harakawa in view of Tanide et al. (U.S. Patent No. 6,201,516, hereinafter Tanide); and Claims 21 and 22 are objected to as dependent upon a rejected base claim, but would be allowable if rewritten in independent form.

Applicants appreciatively acknowledge the indication of allowable subject matter. However, since Applicants consider that independent Claim 1 patentably defines over the applied references, dependent Claims 21 and 22 are presently maintained in dependent form.

Regarding the rejection of Claims 1-2, 4-5, 7-20 and 23 under 35 U.S.C. §102, Applicants respectfully traverse this rejection as Claim 1 recites novel features clearly not taught or rendered obvious by Harakawa.

Independent Claim 1 is directed to an operation recognition system, comprising:

- an object to be operated;
- at least one camera configured to acquire image data of an operator...
- a processor configured to perform recognition processing on the acquired image data, so as to *define a first virtual plane in between the object and the operator, and to determine if a predetermined part of the operator penetrates the first virtual plane*; and
- a controller configured to control the object based on the determination.

Turning to the applied reference, Harakawa describes a hand pointing device including an information input space having a pair of near-infrared light illuminators arranged in a manner to illuminate a person in the information input space.¹ A pair of near-infrared-light-sensitive video cameras are also arranged in different positions. The direction in which a person is pointing within the information input space is then determined based on the images picked up by the video cameras.

Harakawa, however, fails to teach or suggest “a processor configured to perform recognition processing on the acquired image data, so as to *define a first virtual plane in between the object and the operator, and to determine if a predetermined part of the operator penetrates the first virtual plane,*” as recited in independent Claim 1.

In rejecting this claimed feature, the Office Action cites col. 20, lines 44-56, col. 22, lines 38-50 and Fig. 11 of Harakawa. This cited portion of Harakawa describes a process of determining three-dimensional coordinates (x_o , y_o , z_o) of a reference point (P_o) of a person based on the height (h) of the person and the position of the person in the input space. The position (plane coordinates) of the person on the floor surface is set to the determined plane coordinates of reference point P_o . Thus, this cited portion of Harakawa describes a process of determining the three dimensional coordinates of the position of a user on the floor surface, and does not *define a first virtual plane in between the object and the operator to determine if a predetermined part of the operator penetrates the first virtual plane.*

Col. 22, lines 38-50 of Harakawa further describes that, based on the three-dimensional coordinates of the reference point P_o and a set of three dimensional coordinates associated with a feature point P_x (i.e. a users pointer finger), a direction of an extended virtual line connecting the reference point and the feature point is determined as the direction pointed to by the person. Then the coordinates of the intersection point (S) on a surface of a

¹ Harakawa, Abstract.

display (e.g. object) and the virtual line are calculated to determine the position pointed to by the person.

Therefore, Harakawa merely describes a process of calculating a position pointed to by a user by determining a reference point of a person (P_o), a reference point of a person's finger (P_x), and determining where a virtual line between the two intersect a display surface. Harakawa, therefore, fails to teach or suggest "*defining a first virtual plane in between the object and the operator*," or "*determining if a predetermined part of the operator penetrates the first virtual plane*," as recited in independent Claim 1.

Accordingly, Applicants respectfully request that the rejection of Claim 1 (and Claims 2, 4-5, 7-20 and 23, which depend therefrom) under 35 U.S.C. § 102 be withdrawn.

In the outstanding Office Action, Claims 3 and 24-35 were rejected under 35 U.S.C. §103(a) as unpatentable over Harakawa in view of Rubbert, and Claim 6 was rejected under 35 U.S.C. §103(a) as unpatentable over Harakawa in view of Tanide.

As discussed above, Harakawa fails to teach or suggest the above noted features recited in independent Claim 1. Likewise neither Rubbert nor Tanide remedy this deficiency, and therefore, Harakawa, neither alone, nor in combination with Rubbert and/or Tanide teach or suggest Applicant's Claims 3 and 24-35 which recite the same, or substantially similar features, by virtue of independent recitation or dependency. Therefore, the outstanding Office Action does not provide a *prima facie* case of obviousness with regard to any of these claims.

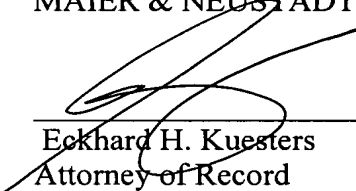
Accordingly, Applicants respectfully request that the rejection of Claims 3, 6 and 24-35 under 35 U.S.C. § 103 be withdrawn.

Application No. 10/784,164
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Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1-35 is patentably distinguishing over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

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